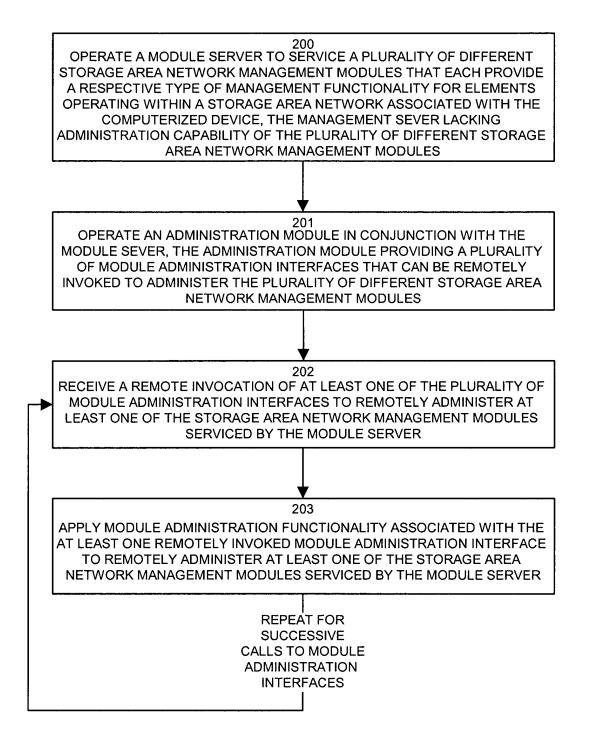


FIG. 1



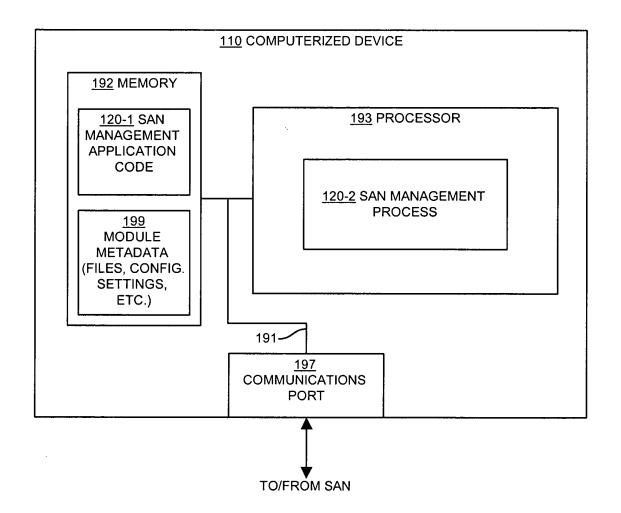


FIG. 3

RECEIVE A REMOTE INVOCATION OF AT LEAST ONE OF THE PLURALITY OF MODULE ADMINISTRATION INTERFACES TO REMOTELY ADMINISTER AT LEAST ONE OF THE STORAGE AREA NETWORK MANAGEMENT MODULES SERVICED BY THE MODULE SERVER

210 RECEIVE A DEPLOY MODULE INTERFACE CALL

211

CALL IDENTIFIES MODULE METADATA INDICATING OPERATIONAL ATTRIBUTES ASSOCIATED WITH A MODULE TO BE INSTALLED AND DEPLOYED FOR OPERATION WITH THE MODULE SERVER

212

CALL IDENTIFIES A MODULE FILE LIST IDENTIFYING MODULE FILES TO BE INSTALLED FOR OPERATION OF THE MODULE TO PERFORM STORAGE AREA NETWORK ELEMENT MANAGEMENT TASKS ASSOCIATED WITH THAT MODULE

203

APPLY MODULE ADMINISTRATION FUNCTIONALITY ASSOCIATED WITH THE AT LEAST ONE REMOTELY INVOKED MODULE ADMINISTRATION INTERFACE TO REMOTELY ADMINISTER AT LEAST ONE OF THE STORAGE AREA NETWORK MANAGEMENT MODULES SERVICED BY THE MODULE SERVER

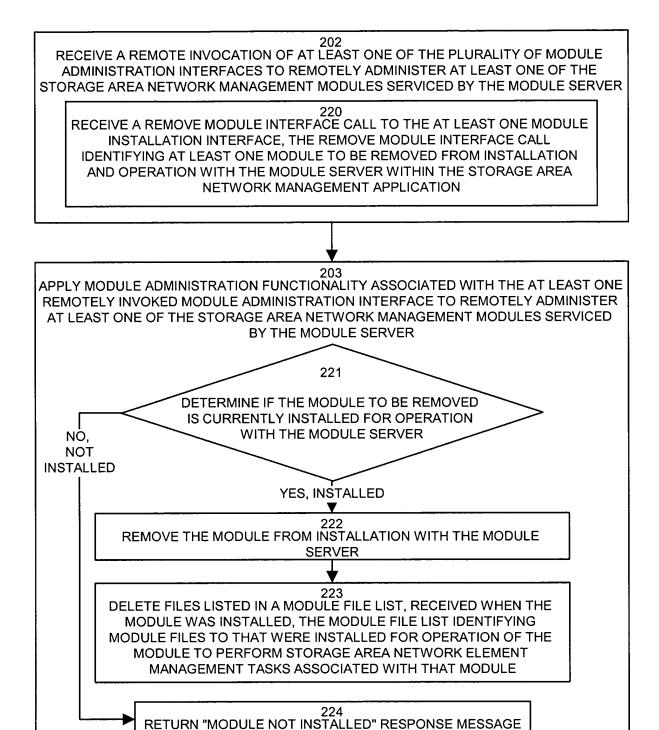
213

EXECUTING THE MODULE ADMINISTRATION DEPLOYMENT FUNCTIONALITY ASSOCIATED WITH THE DEPLOY MODULE INTERFACE CALL TO INSTALL THE MODULE FILES IDENTIFIED IN THE MODULE FILE LIST FOR RUNTIME ACCESS BY THE STORAGE AREA NETWORK MANAGEMENT APPLICATION FOR OPERATION WITH THE MODULE SERVER

214

CONFIGURING OPERATIONAL ATTRIBUTES INDICATED IN THE MODULE METADATA TO ALLOW THE MODULE SERVER TO PROPERLY OPERATE IN CONJUNCTION WITH THE INSTALLED STORAGE AREA NETWORK MANAGEMENT MODULE FILES TO ALLOW OPERATION OF THE MODULE TO MANAGE ELEMENTS IN THE STORAGE AREA NETWORK

DEPLOY MODULE INTERFACE



REMOVE / UNDEPLOY / UNINSTALL MODULE INTERFACE

RECEIVE A REMOTE INVOCATION OF AT LEAST ONE OF THE PLURALITY OF MODULE ADMINISTRATION INTERFACES TO REMOTELY ADMINISTER AT LEAST ONE OF THE STORAGE AREA NETWORK MANAGEMENT MODULES SERVICED BY THE MODULE SERVER

230

RECEIVE A DEACTIVATE MODULE INTERFACE CALL TO THE AT LEAST ONE ACTIVATION CONTROL INTERFACE, THE DEACTIVATE MODULE INTERFACE CALL IDENTIFYING AT LEAST ONE MODULE TO BE DEACTIVATED FROM OPERATION WITH THE MODULE SERVER WITHIN THE STORAGE AREA NETWORK MANAGEMENT APPLICATION

203

APPLY MODULE ADMINISTRATION FUNCTIONALITY ASSOCIATED WITH THE AT LEAST ONE REMOTELY INVOKED MODULE ADMINISTRATION INTERFACE TO REMOTELY ADMINISTER AT LEAST ONE OF THE STORAGE AREA NETWORK MANAGEMENT MODULES SERVICED BY THE MODULE SERVER

231

DETERME IF THE MODULE TO BE DEACTIVATED IS CURRENTLY ACTIVE FOR OPERATION WITH THE MODULE SERVER, AND IF SO DEACTIVATING THE MODULE FROM OPERATION WITH THE MODULE SERVER (IF NOT ACTIVE, RETURN NOT ACTIVE MESSAGE)

DEACTIVATE MODULE INTERFACE

FIG. 6

RECEIVE A REMOTE INVOCATION OF AT LEAST ONE OF THE PLURALITY OF MODULE ADMINISTRATION INTERFACES TO REMOTELY ADMINISTER AT LEAST ONE OF THE STORAGE AREA NETWORK MANAGEMENT MODULES SERVICED BY THE MODULE SERVER

240

RECEIVE A DISABLE ON DEMAND ACTIVATION MODULE INTERFACE CALL TO THE AT LEAST ONE ACTIVATION CONTROL INTERFACE, THE DISABLE ON DEMAND ACTIVATION MODULE INTERFACE CALL IDENTIFYING WHETHER A MODULE IDENTIFIED BY THE DISABLE ON DEMAND ACTIVATION MODULE INTERFACE CALL IS TO BE DEACTIVATED FROM AUTOMATIC OPERATION WITH THE MODULE SERVER WHEN THAT MODULE IS REQUESTED FOR SERVICE WITHIN THE STORAGE AREA NETWORK MANAGEMENT APPLICATION

203

APPLY MODULE ADMINISTRATION FUNCTIONALITY ASSOCIATED WITH THE AT LEAST ONE REMOTELY INVOKED MODULE ADMINISTRATION INTERFACE TO REMOTELY ADMINISTER AT LEAST ONE OF THE STORAGE AREA NETWORK MANAGEMENT MODULES SERVICED BY THE MODULE SERVER

241

DISABLE THE ABILITY OF THE MODULE SERVER TO AUTOMATICALLY LOAD AND DYNAMICALLY LINK THE MODULE IDENTIFIED BY THE DISABLE ON DEMAND ACTIVATION MODULE INTERFACE CALL

DISABLE MODULE INTERFACE

FIG. 7

RECEIVE A REMOTE INVOCATION OF AT LEAST ONE OF THE PLURALITY OF MODULE ADMINISTRATION INTERFACES TO REMOTELY ADMINISTER AT LEAST ONE OF THE STORAGE AREA NETWORK MANAGEMENT MODULES SERVICED BY THE MODULE SERVER

250

RECEIVE AT LEAST ONE DESCRIPTION INTERFACE CALL TO THE AT LEAST ONE DESCRIPTION INTERFACE, THE AT LEAST ONE DESCRIPTION INTERFACE CALL REQUESTING REMOTE ACCESS TO DESCRIPTIVE INFORMATION RELATED TO AT LEAST ONE OF THE INSTALLED STORAGE AREA NETWORK MANAGEMENT MODULES OPERATING IN CONJUNCTION WITH THE MODULE SERVER IN THE STORAGE AREA NETWORK MANAGEMENT APPLICATION IN THE COMPUTERIZED DEVICE

251

DESCRIPTION INTERFACE CALL IS A MODULE METADATA LIST CALL REQUESTING ACCESS TO MODULE METADATA FOR AT LEAST ONE INSTALLED MODULE THAT OPERATES IN CONJUNCTION WITH THE MODULE SERVER

252

DESCRIPTION INTERFACE CALL IS A DESCRIBE MODULE CALL REQUESTING A MODULE DESCRIPTOR ASSOCIATED WITH A MODULE THAT IS INSTALLED TO OPERATE WITH THE MODULE SERVER AND THAT IS IDENTIFIED BY A MODULE IDENTIFICATION SPECIFIED IN THE DESCRIBE MODULE CALL

253

DESCRIPTION INTERFACE CALL IS A INTEROPERABLE OBJECT REFERENCE CALL REQUESTING ACCESS TO AT LEAST ONE INTEROPERABLE OBJECT REFERENCE ASSOCIATED WITH AT LEAST ONE MODULE THAT IS INSTALLED TO OPERATE WITH THE MODULE SERVER AND THAT IS IDENTIFIED BY A MODULE IDENTIFICATION SPECIFIED IN THE INTEROPERABLE OBJECT REFERENCE CALL

TO STEP 203 IN FIG. 8B

DESCRIPTION INTERFACES (MODULE METADATA LIST, DESCRIBE MODULE AND INTEROPERABLE OBJECT REFERNECE INTERFACE)

FROM STEP 202 IN FIG. 8A

203

APPLY MODULE ADMINISTRATION FUNCTIONALITY ASSOCIATED WITH THE AT LEAST ONE REMOTELY INVOKED MODULE ADMINISTRATION INTERFACE TO REMOTELY ADMINISTER AT LEAST ONE OF THE STORAGE AREA NETWORK MANAGEMENT MODULES SERVICED BY THE MODULE SERVER

254

RETURN DESCRIPTIVE INFORMATION RELATED TO AT LEAST ONE OF THE INSTALLED STORAGE AREA NETWORK MANAGEMENT MODULES OPERATING IN CONJUNCTION WITH THE MODULE SERVER IN THE STORAGE AREA NETWORK MANAGEMENT APPLICATION IN THE COMPUTERIZED DEVICE

255

TRANSMIT MODULE METADATA TO A DEVICE THAT PROVIDED THE AT LEAST ONE DESCRIPTION INTERFACE CALL, THE MODULE METADATA INDICATING OPERATIONAL ATTRIBUTES ASSOCIATED WITH A MODULE DEPLOYED FOR OPERATION WITH THE MODULE SERVER

256

TRANSMIT THE MODULE DESCRIPTOR ASSOCIATED WITH THE MODULE IDENTIFICATION, THE MODULE DESCRIPTOR PROVIDING A DESCRIPTION OF THE MODULE, A STATUS OF WHETHER THE MODULE IS ENABLE FOR ACTIVATION UPON STARTUP OF THE MODULE SERVER, AND A PUBLISHED NAME BY WHICH THE MODULE MAY BE ACCESSED FOR STORAGE AREA NETWORK ELEMENT MANAGEMENT FUNCTIONALITY BY AN APPLICATION PROVIDING THE DESCRIBE MODULE CALL

257

TRANSMIT THE AT LEAST ONE INTEROPERABLE OBJECT REFERENCE
TO AN APPLICATION THAT PROVIDED THE AT LEAST ONE
INTEROPERABLE OBJECT REFERENCE CALL, THE AT LEAST ONE
INTEROPERABLE OBJECT REFERENCE OPERATING AS AN
IDENTIFICATION OF THE MODULE FOR USE BY STORAGE AREA
NETWORK MANAGEMENT APPLICATIONS

DESCRIPTION INTERFACES (MODULE METADATA LIST, DESCRIBE MODULE AND INTEROPERABLE OBJECT REFERNECE INTERFACE)

RECEIVE A REMOTE INVOCATION OF AT LEAST ONE OF THE PLURALITY OF MODULE ADMINISTRATION INTERFACES TO REMOTELY ADMINISTER AT LEAST ONE OF THE STORAGE AREA NETWORK MANAGEMENT MODULES SERVICED BY THE MODULE SERVER

260

RECEIVE A MODULE CONTAINER STATE INTERFACE CALL TO THE AT LEAST ONE ACTIVATION CONTROL INTERFACE, THE MODULE CONTAINER STATE INTERFACE CALL IDENTIFYING A MODULE CONTAINER STATE THAT CONFIGURES A CONTAINER STATE ASSOCIATED WITH THE MODULE TO BECOME AT LEAST ONE OF:

I) A DISCARDING STATE IN WHICH THE MODULE DISCARDS INCOMING STORAGE AREA NETWORK ELEMENT MANAGEMENT REQUESTS;

OR

II) A NON-DISCARDING STATE IN WHICH THE MODULE PROCESSES INCOMING STORAGE AREA NETWORK ELEMENT MANAGEMENT REQUESTS FOR MANAGEMENT OF ELEMENTS IN A STORAGE AREA NETWORK

203

APPLY MODULE ADMINISTRATION FUNCTIONALITY ASSOCIATED WITH THE AT LEAST ONE REMOTELY INVOKED MODULE ADMINISTRATION INTERFACE TO REMOTELY ADMINISTER AT LEAST ONE OF THE STORAGE AREA NETWORK MANAGEMENT MODULES SERVICED BY THE MODULE SERVER

261

CONFIGURE THE CONTAINER STATE ASSOCIATED WITH THE MODULE BASED ON MODULE CONTAINER STATE IDENTIFIED IN THE MODULE CONTAINER STATE INTERFACE CALL

MODULE CONTAINER STATE INTERFACE

RECEIVE A REMOTE INVOCATION OF AT LEAST ONE OF THE PLURALITY OF MODULE ADMINISTRATION INTERFACES TO REMOTELY ADMINISTER AT LEAST ONE OF THE STORAGE AREA NETWORK MANAGEMENT MODULES SERVICED BY THE MODULE SERVER

270

RECEIVE A MODULE SERVICE HOME IDENTIFICATION CALL TO THE AT LEAST ONE ACTIVATION CONTROL INTERFACE, THE MODULE SERVICE HOME IDENTIFICATION CALL IDENTIFYING A MODULE INSTALLED FOR OPERATION WITH THE MODULE SERVER AND IDENTIFYING AT LEAST ONE STORAGE AREA NETWORK MANAGEMENT CONSOLE OPERATING IN A STORAGE AREA NETWORK MANAGEMENT COMPUTER SYSTEM WITH WHICH THE MODULE IS TO OPERATE UNDER FOR RECEIPT OF STORAGE AREA NETWORK ELEMENT MANAGEMENT COMMANDS

203

APPLY MODULE ADMINISTRATION FUNCTIONALITY ASSOCIATED WITH THE AT LEAST ONE REMOTELY INVOKED MODULE ADMINISTRATION INTERFACE TO REMOTELY ADMINISTER AT LEAST ONE OF THE STORAGE AREA NETWORK MANAGEMENT MODULES SERVICED BY THE MODULE SERVER

271

CONFIGURE THE MODULE SERVICE HOME IDENTIFICATION ASSOCIATED WITH THE MODULE BASED ON MODULE SERVICE HOME IDENTIFICATION IDENTIFIED IN THE MODULE SERVICE HOME IDENTIFICATION INTERFACE CALL SUCH THAT THE MODULE COMMUNICATES WITH THE IDENTIFIED AT LEAST ONE STORAGE AREA NETWORK MANAGEMENT CONSOLE